

# **Commander, Operational Test and Evaluation Force**



## **Test Plan Checklist**

**13 Sep 2019**

**Program:** \_\_\_\_\_

**Date:** \_\_\_\_\_

## POCs for Test Plan Checklists

*OPTEVFOR 01C—Test Planning & Evaluation*

*Commercial: 757-457-####*

*DSN: 757-456-####*

**01C Director – Mr. Don Barbaree .....6017**

**01C Deputy Director – Mr. Rich Fraenkel .....6127**

### **01C Divisional Representatives**

40 Div. – Vacant .....6443

50 Div./VX-9/HMX-1 – Mr. Kevin Healy .....6181

50 Div./VX-1 – Mr. Rich Fraenkel .....6127

50 Div./VX-1/VMX-1 – LCDR Russell Rohring .....6367

60 Div. – Mr. Mark Rupprecht .....6375

70 Div. – Mr. Rich Dodson .....6095

80 Div./LCS – Mr. Jeff McAloon .....6272

### **Additional POCs**

Mission Based T&E System (MBTES) (database) – Ms. Allison Gibino .....6280

01D Director – Ms. Ellena “Elly” Millar .....6288

01D Deputy Director – Ms. Marie Stanley .....6415

01D Operations Director – Mr. Patrick Vartuli .....6050

01D Test Design Coordinator – Mr. Ryan Mayer .....6270



## OPTEVFOR Test Plan Checklist Introduction

Purpose: This checklist guides the Operational Test Director (OTD) through OPTEVFOR's six (6) step **Test Planning process**. The Test Planning process should ***begin at least seven (7) months prior to the start of test.***

The checklist is broken up into smaller portions based on significant review milestones:

- Touch Point A
- Touch Point B
- Touch Point C
- Touch Point D
- Touch Point E.

The Test Planning process culminates in a **Test Plan Review Board (TPRB)** to Divisional Leadership. Following successful completion of the process, the OTD receives approval for further routing of the Test Plan, per the OTD Manual and in accordance with SOP 14-1.

This checklist is intended to be utilized for planning **any type of test conducted by OPTEVFOR**, including the common phases of test:

- Quick Reaction Assessment (QRA)
- Early Operational Assessment (EOA)
- Operational Assessment (OA)
- Integrated Testing (IT) Data Collection Plan (DCP)
- Multi-Service Operational Test and Evaluation (MOT&E)
- Initial Operational Test and Evaluation (IOT&E)
- Follow-on Operational Test and Evaluation (FOT&E)
- Verification of Correction of Deficiencies (VCD).

**CAUTION:** Consider each checklist step for applicability and appropriate application, using the applicable test plan template, and in coordination with the Lead Test Engineer (LTE) if assigned. ***Do not skip steps or delete sections from the template unless you understand the intent of that step/section and know that it is not applicable to your test.***

NIPRNET and SIPRNET resources available to the OTD outside this checklist (generally located in Y:\OT&E Reference Library or Y:\OT&E Production Library\Test Plan and DCP) include:

- |                                  |  |
|----------------------------------|--|
| • OTD Manual                     | • OPTEVFOR Best Practices                    |
| • Test Plan templates            | • Standard Cyber Survivability (CS) products |
| • Concept of Test Brief template | • Test Planning course materials             |

Additional SIPRNET resources, applicable to some programs, (found at Y:\OT&E Reference Library\WCBs, MTBs, ICTBs, and TACSITs) include:

- |  |                                      |
|--|--------------------------------------|
| • Mission Technical Baselines (MTB)                | • Warfare Capability Baselines (WCB) |
| • Integrated Capability Technical Baselines (ICTB) | • Weapon/target pairings             |
| • Tactical Situations (TACSIT)                     | • Scoring criteria                   |

**CAUTION:** Using this checklist does not absolve the OTD of the responsibility for ***critical thought***, or the requirement to understand why they are performing these steps and how to apply the results. ***If you don't understand, ask your OIC Representative (Rep) or LTE.***

## Process Administration

Purpose: Complete these administrative actions before starting and update throughout the Test Planning process.

- ☐ 1. Read OTD Manual Chapters 6 through 8.
- ☐ 2. Review/Update IEF, as necessary, to align with latest required measures or test methodology.

*Step 2 will be dependent on the OTD's familiarity with the IEF, likely based on individual level of involvement in document development. Assess the signature date of the IEF against the effective date of policy and best practice for OPTEVFOR processes. Align the IEF with current practices. This will reduce administrative delay during Test Planning.*

- ☐ 3. Attend the Test Planning Course (OTP-200).
- ☐ 4. Develop and maintain test plan development POA&M and brief to LTE and 01C Rep. Include Division Cyber LTE or 01D Test Design Analyst (TDA) if cyber survivability is in the scope of testing for the test phase being planned.
  - a. Understand the overall test data collection strategy and identify appropriate OT data collection opportunities, such as DT or IT, to support desired data collection efforts.
  - b. Determine the intent of this test planning effort (i.e. combined Test Plan for IT and OT or simply an IT Data Collection Plan now with separate Test Plan to come later).
  - c. Determine the driver and date required for the completion of the Test Plan.

*The driver for Test Plan completion is typically the required signature date based prior to test phase start date as planned by the Program Manager and identified in the Test and Evaluation Master Plan (TEMP).*

- d. The recommendation to begin test planning no later than 7 months prior to the start of test is based on the following assumptions:
  - Concept of Test Brief is due to DOT&E no later than 6 months prior to start of test for oversight programs
  - Test Plan signature date is required no later than 60 days prior to test for oversight programs and 30 days prior to test for non-oversight programs
  - Routing the completed test plan through the Warfare Division, and Squadron if applicable, to the Commander in 3-4 weeks, though routing can be streamlined slightly with proactive OTD coordination throughout the routing chop chain.
- e. Draft a test plan development timeline to include each milestone in the process, as applicable for this test phase, based on:
  - Cyber team site visit, if applicable, should be completed prior to Touch Point A
  - Determined driver date
  - Oversight status of the program
  - Consider additional supporting efforts that may be required in parallel such as Modeling and Simulation (M&S) accreditation, Integrated Evaluation Framework (IEF) updates, or system training

- A qualitative assessment of the scope of the test based on established Mission Based Test Design (MBTD) (so larger programs should begin detailed test planning earlier)
- The resources (divisional, squadron, analytical, cyber survivability, or external agencies) available to the test team to execute test planning
- Other test phases in test execution or post-test analysis that may impact this program test phase or members of this test team
- With LTE and 01C Rep assistance, tailor this checklist and adjust the planning timeline to align to the Lead OTA's MOT&E planning process when COMOPTEVFOR is a Supporting OTA
- For MOT&E projects where COMOPTEVFOR is the Lead OTA, ensure additional OTA staffing times agreed to in the MOA for MOT&E are accounted for in the POA&M.

*All touch points will generally apply to any type of test plan, with the exception of an IT Data Collection Plan, which may not require the Data Analysis Plan and Scoring Criteria (Touch Point E) since this will generally be included within the follow-on IOT&E or FOT&E Test Plan.*

- ☐ 5. Enter, and update as required, the Test Planning Touch Point completion dates in TEPS.
- ☐ 6. Ensure “tool” (IEF Database) access to Test Plan database by required personnel.

*Use of the IEF database is required for all Test Plans. Many of the tables in the Test Plan document are produced directly from this database.*

- OTD contact the 01B CTF to request/update access. CTF will pass approved tasking to the Database Analyst.
- The Database Analyst will confirm access (CAC enabled) granted via email.

*Access for contractors is granted through OTD request. If contractors associated with a program change over time, the OTD must inform their 01B CTF of these changes (additions and removals).*

- Consider verifying current IEF database applicable common measures and data requirements are updated per current guidance (i.e. suitability and cyber survivability measures are aligned with current best practices).
- Create IEF Change or IEF Revision databases as required. Consult your 01B CTF as required.

*Any changes to the MBTD made through the test planning process must be officially changed or revised (as appropriate, and agreed to by Division ACOS and 01B).*

- ☐ 7. Remain engaged with Core Team and stakeholders leveraging relationships established in the MBTD IEF process, as well as any additional stakeholders required, to support the planning, execution, or post-test analysis products.

*The Core Team generally includes:*

*The Program Manager (PM), Program T&E Lead, Resource Sponsor, the OPNAV T&E rep, the Fleet User community, the applicable Warfare Center of Excellence rep, and the DOT&E Action Officer for oversight programs. For Multi-service testing, coordinate with the involved OTAs to consult the equivalent personnel from the other services.*

*Additionally, other agencies (such as NSWC Corona, Johns Hopkins APL, or NUWC Newport) that are providing data collection/extraction, reduction, and/or analysis expertise may need to be consulted throughout the Test Planning process so that they are fully prepared to support test execution and/or post-test analysis.*

- ☐ 8. The OTD is now ready to begin the test planning process, based on the developed schedule.
  - a. Do not schedule a touch point without LTE concurrence that the appropriate product(s) will be ready two (2) or five (5) days prior to the desired touch point date.
  - b. The meeting should be cancelled and rescheduled at any time the LTE or OTD find the product will not meet the required two (2)- or five (5)-working day read-ahead availability prior to a scheduled touch point.
  - c. The scheduled duration of each meeting should account for the amount of material to be reviewed and the complexity of possible discussions.
  - d. For programs on DOT&E oversight, the OTD shall maintain a Running Comment Resolution Matrix (RCRM) used to capture all unresolved stakeholder comments generated during the test planning process. Business rules for the 01C Test Planning RCRM can be found at Y:\OT&E Production Library\Test Plan and DCP\RCRM.
- ☐ 9. Templates and example test plans are available on the Y drive.
  - a. Y:\OT&E Production Library\Test Plan and DCP\ for templates tailored to a specific phase. The templates are separated into two parts:
    - i. The test plan template document includes the cover, signature page, and enclosure 1.
    - ii. The test plan enclosure 2 document includes the data analysis plan.
  - b. Y:\00 Signed Test Documents\2 - Test Plans\ for examples of signed test plans.
  - c. Y:\OT&E Production Library\Test Plan and DCP\Concept of Test Brief\ for a COT Brief slide template.
  - d. Y:\OT&E Production Library\Test Plan and DCP\LL\ for Lessons Learned slide templates.
- ☐ 10. As template sections are encountered that are not applicable to the test being planned, the section(s) should be removed and subsequent sections renumbered unless otherwise directed in template guidance. Consequently, the section titles listed for inclusion in the read-aheads for each touch point should be the primary cross reference should the section number or appendix not align with those in this checklist.

## OTD Test Plan Touch Point A Checklist

Purpose: To define the **Purpose of Test**, including the System Under Test (SUT), System of Systems (SoS), Critical Operational Issues (COIs), and how the SUT's capability to accomplish the COI Critical Tasks will be evaluated.

- ☐ 1. Determine the Purpose of Test, considering the following:
- a. Discuss supported PM (or PMs) and PEO.
  - b. Discuss the program decision being supported.
  - c. Discuss the test phase (e.g., EOA, OA, IOT&E, FOT&E, etc.) and planned test dates.

**NOTE:** *The focus of an EOA is unique in that it is assessing the design of the SUT rather than its performance. Testing typically occurs at a point so early in the design of the SUT that data cannot be pulled forward into the EOA nor can data be later qualified for OT. As such, tailoring of this checklist and the template to align with the purposes of the EOA may be required.*

- d. Discuss reporting timeline and requirements.
- e. Discuss status of Concept of Operations (CONOPS), Tactics, Techniques, and Procedures (TTP).
- f. Discuss the current/expected threat context.
- g. Discuss major test objectives.
- h. Discuss any risks identified during previous phase(s) of test.
- i. Discuss any deficiencies identified as corrected by the program office, which require evaluation, for which a VCD has been requested.

- ☐ 2. Review source documents, for changes and updates:

**NOTE:** *The below list of documents is not all inclusive. Some programs may not have all of the documents available, or documents may be in draft form. The OTD must communicate with the program office to receive the documents that apply.*

- a. Capabilities documents.
  - i. Capability Development Document (CDD).
  - ii. Capability Production Document (CPD).
- b. Test & Evaluation Master Plan (TEMP).
- c. Concept of Operations (CONOPS) and/or Concept of Employment (CONEMP).
- d. Information Support Plan (ISP).
- e. Integrated Logistic Support Plan (ILSP).
- f. Life Cycle Support Plan (LCSP).
- g. Navy Training Systems Plan (NTSP).
- h. Maintenance Support Plan (MSP).

- i. Required Operational Capability/Projected Operational Environment (ROC/POE).
  - i. USN ROC/POE.
  - ii. Platform specific ROC/POE.
- j. Functional Requirement Documents (FRDs).
- k. DoD Architecture Framework (DoDAF) and Systems Command Integrated Capability Framework (ICF).
  - i. OV-1 High Level Operational Concept Graphic.
  - ii. AV-1 Overview and Summary Information.
  - iii. OV-2 Operational Resource Flow Description.
  - iv. OV-4 Organizational Relationships Chart.
  - v. OV-5 Operational Activity Model.
  - vi. SV-1 Systems Interface Description.
  - vii. SV-2/SV-2a Systems Resource Flow Description.
  - viii. OV-3/SV-6 Information Exchange Requirements (IERs).
  - ix. SV-10c Systems Event-Trace Description.

**NOTE:** DODAF architectures can be obtained from the program office or the resource sponsor (OPNAV).

- l. Warfare Capability Baseline (WCB) Weapon/Target Pairs.

**NOTE:** WCB is an OPTEVFOR-led assessment on high priority Fleet kill/effect chains prioritized by Fleet Forces and Pacific Fleet.

- m. Tactical Situation (TACSIT).

**NOTE:** TACSITs provide Red Order of Battle (OOB), doctrine and TTPs, Blue OOB, doctrine and TTPs, environmental details, C2, ROE, and more based on current OPLANs. They are Fleet documents.

- n. Mission Technical Baselines (MTB) and Initial Capability Technical Baselines (ICTB).

**NOTE:** These documents come from the acquisition community. MTBs describe the threat (Red OOB, TTPs, doctrine, etc.). ICTBs cover neutralizing threats (Blue OOB, TTPs, doctrine, etc.). See OIX for more information. The documents are available at SIPR Y:\OT&E Reference Library\MTBs, ICTBs, and TACSITs.

- o. Program Security Classification Guide (SCG).

**NOTE:** The SCG is a required reference for every OPTEVFOR Test Plan. The SCG should be reviewed at the beginning of each Test Planning effort to determine the appropriate classification of the SUT configuration that will be tested. Additionally, the team should review the SCG for guidance on the appropriate classification for identified risks/deficiencies.

- p. System Threat Assessment Report (STAR) and/or Validated Online Lifecycle Threat (VOLT), as applicable.

☐ 3. Review/update SUT description from the IEF. Consider:

- a. Describe the test article, down to the sub-component level (including software versions), with enough detail to:
  - i. Define the line between SUT and SoS.



- ii. Clearly define an issue as a Blue Sheet or a Gold Sheet.

**NOTE:** *The software configuration planned for the SUT during the test period needs to be understood and presented as part of the test article description. A shell Software Configuration table is available in the database tool at Report tab -> Test Plans dropdown -> [select working test plan] -> Touch Point A -> Software Config Shell.*

- b. Discuss actual test configuration(s) for use in OT, including In-Scope and Out-of-Scope SUT definitions for FOT&E.
  - i. Describe specific test article configuration.
  - ii. Describe major hardware/software, and any changes, from DoDAF architecture.
  - iii. Identify any differences between this test, any previous testing, and the expected Fleet configuration for IOC/deployment.
  - iv. For any post-IOT&E test phase, describe:
    - Out-of-Scope SUT
    - New capabilities
    - Enhancements.

- c. Discuss specific environment(s) to be examined.

☐ 4. Review/update SoS description from the IEF tailored to this phase of test.

- a. Review DoDAF architecture and other publications to characterize SUT and SoS interfaces.
- b. Highlight any interface/interaction from SUT to SoS. Consider:
  - i. What else does the SUT touch?
  - ii. What changes will require regression?
  - iii. How will SUT impact the SoS and 'kill chain'?
  - iv. How will SoS be affected by planned OT?
- c. Discuss SUT hardware/software requirements to enable SoS interface.

**NOTE:** *In certain test environments the SUT may not fully interact with its intended SoS (often occurs in EOA/OAs). The OTD must understand how this will affect test design.*

☐ 5. Obtain access for required test team members to the current “live” database from the 01B System Analyst, Mr. Devon McGuire or Ms. Allison Gibino.

☐ 6. Review the Effectiveness and Suitability COIs and their Critical Tasks/Critical Measures from the IEF.

- a. Review the applicable ROC/POE to ensure the SUT and COIs are aligned.
- b. Discuss COIs and SUT tasks/functions/capabilities.
- c. For FOT&E, ensure the COI questions reflect the focus on the In-Scope SUT.
- d. Discuss decomposition of COI – Task – Subtask, and provide context to ‘mission relation’.
- e. Assess if any updates to the IEF are required.

**NOTE:** The COI Mission Critical Measures tables can be generated by the tool. Report tab -> Test Plans dropdown -> [select working test plan] -> Touch Point A -> TP Crit Task to Crit Measures.

- ☐ 7. Review the CONOPS and understand the SUT (hardware and software) contribution to each Effectiveness COI and mission Critical Task.
- a. How will the SUT be used while executing the mission?
  - b. What hardware and software components are necessary to accomplish the mission(s)?

**NOTE:** The intent of step 7 is to ensure the SUT component contributions to mission accomplishment are understood well enough to review the Mission Critical Subsystem Matrix, IAW Best Practice 20 during step 8.

- ☐ 8. Discuss the Maintenance Strategy and support of the various Suitability COIs.
- a. Assess how the Maintenance Strategy will support completion of Critical Tasks.
  - b. Review the Mission Critical Subsystem Matrix.
  - c. Review the SUT sustainment plan and the suitability evaluation as described in the IEF.
    - i. Reference the ILSP, LCSP, and NTSP.
    - ii. Consider the Material Support Date and the Ready for Training Date as established by the PM.
    - iii. Align the Suitability COIs and measures with this phase of test and test article.

**NOTE:** Suitability COIs often do not have associated Critical Tasks. In such cases, the Critical Measure may be sufficient, but the OTD should understand and document the strategy for how the measures (MTBOMF, MTTR, MTBF, etc.) will be assessed.

**NOTE:** Additional guidance on Suitability COIs can be found in Best Practice 20, IEF Checklist annexes, and the Suitability Course. The latest Suitability Course materials can be found at Y:\T&E\RMLA (latest course date).

- ☐ 9. Discuss the Developmental Test (DT) contributions to this OT phase.

**NOTE:** Focus should be on the DT measures and data requirements that are necessary for evaluating the SUT but cannot be collected in an operationally representative manner.

- ☐ 10. Evaluate Regression Testing requirements.

**NOTE:** The IEF process should have determined if significant hardware and software changes have affected legacy Critical Tasks and Measures, and identified Critical Measures to support regression testing.

**NOTE:** Regression test planning requires the following: 1) identification of hardware and/or software configuration changes, 2) further identifying the scope of regression through analysis of which subcomponents or software modules the identified changes directly interact with, and then 3) identifying the tasks and measures that correlate to the components within the scope of regression. The steps below are intended to guide the OTD through this methodology.

- a. Review DoDAF System Views (SV) and Interface Control Documents (ICD).

- b. What components may have been affected by hardware/software changes?
  - i. Consider potential impacts.
  - ii. How do changes potentially affect Critical Tasks/Critical Measures?
- c. Coordinate with the program office to identify which impacts have been assessed by CT and those that will be assessed during DT.
- d. Develop IT DCPs and OT plans for regression testing, stressing the system and relevant interfaces.
- e. Document the plan to execute identified tasks and collect data for applicable measures in order to evaluate SUT for 'unintended consequences'.

**NOTE:** *Non-significant updates and changes may be easily regression tested by testing with operators who have experience with the legacy system. Major issues can often be discovered this way. In all cases the OTD should have a plan for Regression Testing.*

- ☐ 11. For a stand-alone VCD or for an FOT&E, discuss any formally requested VCDs received from the Program Office. For each potentially mitigated or corrected deficiency provide:
  - a. Root Cause Analysis.
  - b. Corrective Action Taken.
  - c. Results of regression testing conducted by the Program Office.
- ☐ 12. Review limitations to test in the IEF and determine if updates or additions are required.
  - a. What can't we test (or can't test in an operationally representative manner) and why?
  - b. What won't we learn?
  - c. Which COI(s) is affected, and what is the impact of the limitation?
  - d. What's the mitigation? If none, so state.
- ☐ 13. Prepare Touch Point A read-ahead.
  - a. Includes the following test plan sections, as applicable to the test being planned:
    - i. Purpose of Test
    - ii. Test Article Description (SUT Description)
    - iii. SoS Description
    - iv. Fielding Config
    - v. Mission Area *or* COI Discussion
    - vi. DT Contributions
    - vii. VCD
    - viii. Regression Testing
    - ix. Limitations to Test
    - x. Mission Critical Subsystem Matrix.
  - b. Measures to data requirements table (IEF, table B-1).
  - c. E-mail **two (2)-working days prior** to the scheduled Touch Point A review to: 01B CTF, 01C Rep, 01D TDA, SH/OTC, LTE, contract support, applicable Program

Office Representative, any supporting data collection / reduction / analysis agency representative (i.e., NSW Corona, JHU APL, etc.), and the DOT&E AO.

☐ 14. Conduct Touch Point A.

- a. Schedule a review with the 01B CTF, 01C Rep, SH/OTC, LTE, contract support, and the other members of the test team. Include the 01D TDA if Cyber Survivability is within scope for the test phase being planned. The applicable Program Office Representative and any supporting data collection / reduction / analysis agency representative (i.e., NSW Corona, JHU APL, etc.) should be invited.
- b. For oversight programs, the DOT&E AO shall be invited to participate. Provide the post-Touch Point A product by e-mail. Document any unresolved substantive or critical comments in the RCRM.
- c. Be prepared to provide the relevant required documentation (e.g., CDD, CPD, SEP, Maintenance Plans, etc.) and previous risks and deficiencies, as applicable.
- d. OTD will coordinate with 01B M&S team and provide status update to M&S accreditation for all M&S being used for test.

***NOTE: The touch point meeting should be cancelled and rescheduled any time the LTE or OTD find the product will not meet the required two (2)-working day read-ahead availability prior to a scheduled touch point.***

***NOTE: If there is disagreement about Purpose, SUT, SoS, or COI discussion that cannot be resolved at Touch Point A, the B Code (or Squadron COTD/ACOTD) should be briefed and act as the decision authority to move on to the next phase of Test Plan development.***

☐ 15. Capture Touch Point A Lessons Learned (LL).

- a. Document development considerations and issues the team encountered and the recommendation for follow-on teams to consider.
  - i. Provide LL type (Best Practice, Problem, or Recommendation).
  - ii. Define Brief Description, Observations, and Conclusion.
- b. Document any competency process documentation (i.e. specific checklist steps or template guidance) or expertise that may have better supported the team and improve initial document quality and/or timeliness.

☐ 16. Provide revised Touch Point A read-ahead.

☐ 17. Log Touch Point completion in TEPS with 01C Rep concurrence.

## OTD Test Plan Touch Point B Checklist

Purpose: To develop the **Test Schedule** and understand what data has been collected and **qualified for OT**, what data still need to be collected, and when those data will be collected.

**NOTE:** *If detailed planning for Touch Point C/D is considered advantageous prior to Touch Point B, this can be accommodated with division/squadron leadership approval. The team should be aware of the potential risk to schedule induced by a delayed Concept of Test Brief and leadership buy-in to the overall scope of test that this methodology may result in if not pro-actively managed.*

**NOTE:** *The IEF is used to determine data requirements to address measures that are used to inform COI resolution. Data is collected throughout all phases of the SUT life cycle (DT/IT/EOA/OA/IOT&E/FOT&E). DT and IT data must be qualified for use in OT. All qualified data should be used.*

- ☐ 1. Review all previous program test data and reports.
  - a. Developmental Test (DT) data; including: Deficiency Reports (DR); Reports of Test Results (RTR), and DT to OT Transition Reports.
  - b. Integrated Testing (IT) data.
  - c. Any other previous OT results (EOA, OA, IOT&E, FOT&E, VCD, etc.)
- ☐ 2. Determine what previously collected data may be qualified for use during this phase of OT.
  - a. Evaluate previously collected data to determine whether it meets the following criteria:
    - i. Was SUT configuration the same as intended for this phase of test?

**NOTE:** *For IOT&E/VCD/FOT&E: Previous SUT configuration(s) should be the same as that intended for use in OT, and for the Fleet. Be prepared to discuss and explain any deltas in configurations.*

- ii. Were data collected under conditions specified in IEF?
    - iii. Was the SUT realistically stressed?
    - iv. Was environment operationally representative?
    - v. Were operators operationally representative?
    - vi. Were threats/targets operationally representative?
  - b. Be prepared to discuss qualification rationale for every event or run, as applicable, with previously collected data.
- ☐ 3. Based on the data qualified for OT (IOT&E/FOT&E template section 2.4), or expected to be qualified (IOT&E/FOT&E template section 2.5), determine which measures, vignettes, or runs within vignettes, have been fully or partially satisfied.

**NOTE:** *The Previous Data Qualified for OT table can be generated by the tool. Report tab -> Test Plans dropdown -> [select working test plan] -> Touch Point B -> Previous Data Qualified for OT.*

- ☐ 4. For IT events, discuss requirement for a Data Collection Plan (DCP) or inclusion of IT data collection in this test plan.

**NOTE:** A Scoring Board shall be conducted to approve the previously collected data for use toward this phase of test. This scoring process may occur at Touch Point B, or a separate Scoring Board meeting may be scheduled in preparation for a streamlined Touch Point B meeting, if desired.

- ☐ 5. Review available resources and major planned operational opportunities (e.g., underway periods, large force exercises, etc.) that can be leveraged for test.
  - a. Review planned resources in the TEMP and IEF.
  - b. Review available ranges and their schedules.
  - c. Consider regression testing requirements identified for Touch Point A.
  - d. Consider major operational opportunities that can be used to fulfill data requirements.
  - e. Are additional test-specific resources required?
  - f. Any environmental restrictions or constraints?
  - g. Consider requirements for data collection tools, instrumentation, personnel, etc.
- ☐ 6. Organize testing and define Test Events by determining which vignette(s), specific run(s), and demonstrations should be grouped together, conducted in sequence, and/or conducted concurrently.

**NOTE:** Linking and grouping of Vignette(s)/Runs, Maintenance Demonstrations, Effectiveness Demonstrations, and Regression Testing into test events can be accomplished by reviewing the IEF test design for commonalities. The goal is to optimize test time and resources.

**NOTE:** Events are constructed in the tool out of one or more vignettes that align with a desired event. This will tie the event to measures, DRs, and conditions. To export the schedule for inclusion in the test plan using the tool follow: Report tab -> Test Plans dropdown -> [select working test plan] -> Touch Point B -> Schedule Summary.

- ☐ 7. Develop the test schedule.

**NOTE:** The test schedule should cover a Test Phase. Test Phases are usually determined by a milestone within the development lifecycle of the SUT (e.g., OT-C1, OT-B2, OT-D1, see OTD Manual). Multiple Test Periods may compose the Test Phase. Test Periods are usually driven by real world schedules that allow for the execution of a large portion of testing (i.e., detachment, underway period, deployment, or large force exercise). Multiple Test Events compose a Test Period, and are focused on collecting data to address measures. Test Events can be a standalone DOE run from a vignette or demonstration, a group of vignette runs with similar conditions, an entire vignette, or multiple vignettes executed consecutively. The Test Event is the foundation on which the test schedule is built.

- a. Define each Test Phase and Test Period (as applicable).
- b. Describe individual Test Events (the building blocks for each Test Period).
  - i. Establish initial draft test objectives.
  - ii. Provide a summary of the events, including the factors being varied if an event supports a Response Variable (RV) or total number of required runs for non-RV vignettes.
  - iii. Determine an order of execution, and number Test Events in planned chronological execution sequence (1, 2, 3, etc.).

**NOTE:** *Ensure every DOE run is included in the schedule. Some DOE require randomized run order. When required, the OTD must ensure randomization is integrated into the plan.*

**NOTE:** *If multiple vignette run matrixes are being combined, the tool will have combined those run matrixes when the event was created. Runs specific to this phase of test can be selected, as required.*

- c. Review, verify, and discuss Test Conditions for each Test Event.
  - i. Controlled Conditions
  - ii. Recordable Conditions
  - iii. Constant Conditions.
- d. Review, verify and discuss resources required for each Test Event.
  - i. Targets
  - ii. Ranges
  - iii. Test articles
  - iv. Support equipment
  - v. Any additional requirements.

- ☐ 8. Draft Touch Point B read-ahead, and email to the A Code, B Code, Squadron CO, Squadron XO, Squadron COTD, Squadron ACOTD, 01B, 01C, 01B CTF, 01C Rep, SH/OTC, LTE, contract support, other members of the test team, applicable Program Office Representative, any supporting data collection / reduction / analysis agency representative (i.e., NSWC Corona, JHU APL, etc.), and the DOT&E AO **five (5)-working days prior** to the scheduled Test Plan Touch Point B.

**NOTE:** *It is highly recommended to provide the read-ahead to the SH/OTC, 01C Rep, 01B CTF, and 01D TDA prior to distributing to the senior leadership to reduce the working-level comments during the conduct of Touch Point B.*

- a. Touch Point B read-ahead includes the following test plan sections, as applicable:
  - i. Scope of Test Summary
  - ii. Data Qualified for OT
  - iii. Scheduled IT Events Supporting OT
  - iv. Schedule Overview
  - v. Test Execution

**NOTE:** *The test schedule in appendix A must account for every DOE run. The test schedule should be presented in a calendar format at Touch Point B if the appendix is not formatted as one.*

- b. Provide the latest copy of the run matrices approved by the DWG.
- c. Prepare Concept of Test Brief, if required by Warfare Division best practice, for presentation at Touch Point B.

**\*\*For Oversight Programs, DOT&E must be provided Touch Point B read-ahead.\*\***

**NOTE:** *Discuss with Warfare Division leadership to determine if the draft Concept of Test Brief is a required entry criterion and read-ahead item for Touch Point B.*

☐ 9. Conduct Touch Point B.

- a. OTD will schedule a review with the following people:
  - i. Required: A Code, Squadron CO, 01C, 01B (or their designated reps).
  - ii. Recommended: B Code, Squadron XO/COTD, ACOTD, SH/OTC, LTE, 01C Rep, 01B CTF, contract support, and other members of the test team. Include the 01D TDA if Cyber Survivability is within scope for the test phase being planned. The applicable Program Office Representative and any supporting data collection / reduction / analysis agency representative (i.e., NSWC Corona, JHU APL, etc.) should be invited.
  - iii. **For oversight programs, the DOT&E Action Officer must be invited.** Document any unresolved substantive or critical comments in the RCRM.
- b. Be prepared to provide the relevant required documentation (e.g., previous test reports, data collected, previous risks and deficiencies, Vignette-to-Subtask-to-Conditions Matrix, etc.).
- c. OTD brief to the A Code/Squadron CO will discuss:
  - i. Provide the status (number of items and which stakeholders have responded) of the RCRM and address applicable items during the corresponding portion of the meeting.
  - ii. Review Touch Point A results highlighting the “Purpose of Test” and “Limitations of Test”.
  - iii. Scoring of previously collected data for specific runs, vignettes, and measures that have been fully or partially satisfied.

**NOTE:** Use the Vignette-to-Subtask-to-Conditions Matrix and the guidance in step #2 above as the basis for discussions concerning satisfying runs, vignettes, and/or measures.

- iv. Scheduled IT contributions, including previously documented DCP requirements, and inclusion of IT events in this test plan.
- v. Data left to be collected and for which runs, vignettes, and measures, including regression requirements.
- vi. Test Execution Schedule of Events and when remaining data will be collected.

**NOTE:** Focus on who will be involved, what will be accomplished and with what assets, when and where it will occur, why it is occurring (i.e. high level purpose), and how the test team will be involved. Make sure you allot time in the schedule for data analysis, training and proficiency, and potential re-testing requirements.

*A preliminary understanding of how events will be conducted, flow from one to the next, are linked to vignettes, and will support collection of the required data is necessary to successful completion of Touch Point B.*

**NOTE:** The touch point meeting should be cancelled and rescheduled any time the LTE or OTD find the product will not meet the required five (5)-working day read-ahead availability prior to a scheduled touch point.



- ☐ 10. Capture Touch Point B Lessons Learned.
  - a. Document development considerations and issues the team encountered and the recommendation for follow-on teams to consider.
    - i. Provide LL type (Best Practice, Problem, or Recommendation).
    - ii. Define Brief Description, Observations, and Conclusion.
  - b. Document any competency process documentation (i.e. specific checklist steps or template guidance) or expertise that may have better supported the team and improve initial document quality and/or timeliness.
- ☐ 11. OTD should provide revised Touch Point B read-ahead.
- ☐ 12. Log Touch Point completion in TEPS with 01C and Warfare Division Director concurrence.
- ☐ 13. Prepare the Concept of Test Brief for presentation to 00 and DOT&E if not already complete.

## OTD Test Plan Touch Point C Checklist

Purpose: To develop the **Detailed Method of Test (DMOT)** for executing the test events detailed in the test schedule by determining how the test will be conducted and flow from event to event throughout the test phase.

**NOTE:** *The events should line up with the test schedule. Consideration should be given for how the entire test will flow. Maintenance Demonstrations, Effectiveness Demonstrations, and Regression testing should be treated like any other Test Event. Since the events should be sequential and relate to one another by common conditions and objectives, there should be a method for how the events can be efficiently and effectively executed in chronological order and how they will flow. Once complete, the DMOT should be a detailed, executable document, understood by all participants, which flows logically from event to event, while remaining aligned with the Test Schedule.*

- ☐ 1. Review applicable schedules, TACMANs, NTTPs, CONOPS, and TACSITs.

**NOTE:** *The method used to execute each test event should be in line with the tactics and CONOPS used in the Fleet. For new systems or those in need of updated tactics development, engage the appropriate Warfare Development Center(s) (NAWDC, SMWDC, etc.).*

- ☐ 2. Review the IEF Vignette-to-Data Requirements-to-Test Method Matrix (DRTM) (paying close attention to the vignette test methodology) and the Vignette-to-Subtask-to-Conditions Matrix (Run Matrix) (table C-1).

**NOTE:** *The IEF began the process of developing the test method. OTDs should leverage the IEF by determining how the test will be executed and flow from event to event throughout the day. Additionally, operational subject matter expert and adjunct tester expertise should be leveraged, as required, in developing the test method.*

- ☐ 3. Based on each day's test event schedule, determine:
- a. What are the *test objectives* for this test event?
    - i. Build upon the initial test objectives established for Touch Point B
    - ii. Ensure the discussion broadly captures the event
    - iii. Provide enough detail to determine if objective will be met following test execution.
  - b. What *test methods* or maneuvers will be used?
  - c. What *test conditions* do we need to establish?
    - i. What are the common conditions required throughout the event?
    - ii. What are the randomized conditions required to be varied during the event?
    - iii. What unique conditions are required?
    - iv. Are there any hard to change conditions?
    - v. How will the test participants be prompted/directed to establish the necessary test conditions?

**NOTE:** *Unique conditions are generally considered as very expensive or rare resources or difficult to attain conditional requirements. Hard to change conditions are challenging to vary in an operational environment or in an operationally realistic manner.*

- vi. Are there any **additional** conditions that need to be considered? **If so, consult with 01B and 01C and update the IEF.**
  - d. What is the plan for handling *deviations and limitations* to test? (i.e. When to call home?)
- ☐ 4. Determine the conditional requirements for each test event to ensure data collected are valid for those runs to be executed. Consider:
- a. What are the required (test specific) conditions, status, configurations, or setups needed?
  - b. Review DOE for Controlled, Constant, and Recordable Conditions to determine what tolerances must be met to validate test events.
  - c. How will you know if data collected are valid (required tolerance)?
  - d. Identify a point of contact (POC) for all data collected.

**NOTE:** *These tolerances will be documented in the Data Analysis Plan for Touch Point E. A shell is available from the tool under Report tab -> Test Plans dropdown -> [select working test plan] -> Touchpoint E -> Conditional Criteria and Tol Shell if the team desires to begin populating the table in parallel with step 4.b or 4.c.i.*

- ☐ 5. Define the start ('COMEX') and stop ('FINEX') of each test event, as applicable.
- a. What pre-test conditions must be met prior to the start of the test event?
  - b. What 'trigger' will be used to establish the start of the event?
  - c. What vignettes compose each test event?

**NOTE:** *This was accomplished during the steps for Touch Point B using the tool. Check for any other vignettes that should be included as part of each event.*

- d. What test criteria must be met, and what data must be collected, in order to call the test event complete?
- e. What criteria or indication will be used to define the stop of the event?

**NOTE:** *The intent of defining the start and stop criteria for each event is that the event will be repeatable. So if a future test team needs to revisit this event, they will be able to understand and repeat the event based on the defined start and stop.*

- ☐ 6. Determine Go/No Go criteria for each major test event. Consider:
- a. What are specific Go/No-Go criteria for each event (i.e. visibility)?
  - b. What specific threshold conditions for these criteria must be met (i.e. visibility > 0.5 nm)?
  - c. If any prerequisite for test is not available, test team is a 'No-Go' to execute the test event.

**NOTE:** *In step 6, the test team identifies the prerequisites and 'must haves' before testing can commence.  
Go: All preplanned events and requirements to safely proceed have been met  
No-Go: Requirements for test have not been met; the test team is faced with a missing requirement*

- ☐ 7. Define each test event's DMOT for execution.
- a. Start with the DRTM, expanding on the detail already included in the test method section.
    - i. Describe test objectives.
    - ii. Describe test methods/maneuvers to be executed.
    - iii. Discuss CONOPS, TTPs, or TACSITs to be used.
    - iv. Discuss any 'build-up' required for critical test events (proficiency).
  - b. At a **minimum** the event DMOT should include:

**NOTE:** *The DMOT must include detailed instructions for how the OTD or test control cell will ensure the SUT, opposition forces, and data collectors are prepared to begin each event. Additionally, it should describe how to transition between runs within an event or between events, ensuring each run is independent of the conditions established in previous runs.*

- i. The steps required to set up the test event. Review and expand on the pre-test discussion in the DRTM test method section.
  - ii. Actions and responsibilities of the OTD, adjunct testers, operators, and test team required to facilitate the test event.
  - iii. How the test will be executed (test methodology)? Review and expand on the test execution discussion in the DRTM test method section. This encompasses discussion from both Blue Force and Red Force perspectives, as well as any required White Cell.
  - iv. Briefing requirements, both pre- and post-test.
  - v. Step-by-step timekeeping, event execution, and data collection synchronization.
    - Timeline of key events.
    - Describe how to get from the end of the previous test event to beginning of this one.
    - Describe how you will end this test event and set up for the next one.
  - vi. Operational Risk Management (ORM)/safety considerations.
    - Identify any specific range safety/clearance requirements.
    - Identify any proficiency 'build-up' required for critical test events.
    - Identify any hazards or high risk operations present during any test event.
    - Review emergency procedures, if applicable.
    - Discuss 'what if' drills.
- ☐ 8. Draft Touch Point C read-ahead and email it to the 01C Rep, SH/OTC, LTE, contract support, applicable Program Office Representative, any supporting data collection / reduction / analysis agency representative (i.e., NSWC Corona, JHU APL, etc.), DOT&E AO, and other members of the test team **two (2)-working days prior** to the scheduled Test Plan Touch Point C. **Touch Point C read-ahead includes Section 3 (Safety with hazard mitigations) of the Test Plan and either Section A.3 (Detailed Execution Plan) or DMOT portion of Test Cards for every event containing the following information:**
- a. Test Objective for each test event.
  - b. Daily Pre-Test Brief/Hot Wash requirements.

- c. DMOT for each test event.
- d. Data validity requirements.
- e. Start/Stop definitions.
- f. Go/No Go criteria, if applicable.

☐ 9. Conduct Touch Point C.

- a. Schedule review with 01C Rep, SH/OTC, LTE, contract support, and other members of the test team. Invite the 01B CTF (may attend but not required). Include the 01D TDA if Cyber Survivability is within scope for the test phase being planned. The applicable Program Office Representative and any supporting data collection / reduction / analysis agency representative (i.e., NSWC Corona, JHU APL, etc.) should be invited.
- b. For oversight programs, the DOT&E AO shall be invited to participate. If not attending, provide the post-Touch Point C product by e-mail. Document any unresolved substantive or critical comments in the RCRM.
- c. Be prepared to provide the relevant required documentation (e.g., ship schedules, Test Schedule, CONOPS, Vignette DRTMs, Vignette-to-Subtask-to Condition Matrix, etc.).
- d. Provide the status (number of items and which stakeholders have responded) of the RCRM and address applicable items during the corresponding portion of the meeting.

**NOTE:** *The touch point meeting should be cancelled and rescheduled any time the LTE or OTD find the product will not meet the required two (2)-working day read-ahead availability prior to a scheduled touch point.*

**NOTE:** *If there is disagreement about the DMOT that cannot be resolved at Touch Point C, the B Code (or Squadron COTD/ACOTD) should be briefed and act as the decision authority to move on to the next phase of Test Plan development.*

☐ 10. Capture Touch Point C Lessons Learned.

- a. Document development considerations and issues the team encountered and the recommendation for follow-on teams to consider.
  - i. Provide LL type (Best Practice, Problem, or Recommendation).
  - ii. Define Brief Description, Observations, and Conclusion.
- b. Document any competency process documentation (i.e. specific checklist steps or template guidance) or expertise that may have better supported the team and improve initial document quality and/or timeliness.

☐ 11. Provide revised Touch Point C read-ahead.

☐ 12. Log Touch Point C completion in TEPS with 01C Rep concurrence.

## OTD Test Plan Touch Point D Checklist

Purpose: To develop the **Data Collection Plan** in order to ensure all data requirements are linked to vignettes, test events, associated measures, and will be collected during test.

**NOTE:** *The Measures-to-Data Requirements Matrix (MDRM) and the Conditions Directory from the IEF should be used as a resource for the development of the Data Requirements Table. If new Data Elements and Conditions are discovered or discussed or Data Elements and Conditions are determined no longer to apply, the IEF should be updated accordingly.*

- ☐ 1. Review all data elements required for each test event from the IEF and the IEF database, particularly the MDRM (appendix B), Vignette DRTM (appendix B), Vignette-to-Subtask-to-Conditions Matrix (Run Matrix, appendix B), Conditions-to-Data Requirements Matrix (appendix B), and Conditions Directory (appendix A). Update the Test Plan Database accordingly to reflect the in-scope measures and data requirements for this phase of test.
- ☐ 2. Review and update the source of data, including the required measurement tools and devices. Consider:
  - a. What system or measuring device (e.g., workstation, stopwatch, combat system automated data extraction (Auto DX)) will provide the data?
  - b. Are there any calibration requirements for these tools or measurement devices?
- ☐ 3. Review and update the Data Requirements in the database tool with the following information for each data element and recordable condition:

**NOTE:** *The end purpose of step 3 is to ensure data sheets are complete, alternate data sources are available for critical measures, and individuals responsible for data collection are not overloaded. The Measures to DRs by Event report is also used as a checklist to ensure all the data and recordable conditions are captured on an appropriate record. Once that is satisfied, the OTD needs to ensure the data records are assigned to an individual so that the data can be recorded during the test event and the record can be collected after the test event.*

- a. Verify units of measure, including the precision required (e.g., whole foot, nearest 100 yards, HH:MM:SS.S).
- b. Data Source (validated in step 2 above).
- c. Collector Location (Where will the person collecting the data physically be positioned to collect the data?).
- d. Where recorded (What data sheet or data device, retained by the test team, is storing the information?).
- e. Responsibility (Who is responsible for collecting the data?).
- f. When Collected (at what point during the event should the data be recorded).
- g. Sample Rate (Consider the sampling rate for each data requirement. How frequently must the data be collected? Ensure the data sheet or data device supports the requirement).

- ☐ 4. Organize data collection. From the Measures to DRs By Event report, sort each test event by data recording 'Responsibility'. Ensure data collection is executable from a workload/logistics perspective.
- ☐ 5. Determine the Data Collection Plan (DCP) for each test event.
  - a. Delineate data collection procedures (*who, what, where, when, and how*).
    - i. What data are to be collected?
    - ii. Who will collect the data?
    - iii. What are the data collection procedures?
      - Where will test personnel need to be positioned to observe data sources?
      - When will data be collected?
      - How often must the data be collected?
      - How will data be collected?
    - iv. Are the data classified?
    - v. How will data be returned to OPTEVFOR HQ/Squadron?
  - b. Review, and update as necessary, test support equipment resources in the TEMP/IEF, to produce a comprehensive list of required resources for each test event.

**NOTE:** The OTD should aggregate all the required test support equipment and test support personnel to determine if adequate resources are available before starting test.

**NOTE:** Test support equipment includes equipment required to capture data, take measurements, or facilitate test (e.g., measuring tape, GPS tracker, targets, DX data recorder, etc.).

- ☐ 6. Review requirements for surveys, interviews, focus groups, and data sheets.
  - a. Create required data sheets, interviews, focus groups, and surveys.
  - b. Refer to OPTEVFOR Introduction to Surveys in OT&E course; Best Practice 14, Rev 1 and DOT&E memos of 23 June 2014, 24 February 2015, 2 April 2015, and 6 January 2017 regarding surveys.
- ☐ 7. Draft Touch Point D read-ahead and email it to the 01C Rep, SH/OTC, LTE, contract support, applicable Program Office Representative, any supporting data collection / reduction / analysis agency representative (i.e., NSWC Corona, JHU APL, etc.), DOT&E AO and other members of the test team **two (2)-working days prior** to the scheduled Test Plan Touch Point D. **Touch Point D read-ahead includes DCP portion of Test Cards for every event, containing the following information:**
  - a. Data Collection Plan, to include any specific required procedures.
  - b. Data Record Responsibilities Table.
  - c. Test equipment and personnel requirements.
  - d. Surveys, Interview, Focus Group, and Data Sheets
  - e. Measures-to-Data Requirements Table (B.1)
  - f. Conditions-to-Data Requirements Table (B.2)

☐ 8. Conduct Touch Point D.

- a. Schedule review with 01C Rep, SH/OTC, LTE, contract support, and other members of the test team. Invite the 01B CTF (may attend but not required). Include the 01D TDA if Cyber Survivability is within scope for test phase being planned. The applicable Program Office Representative and any supporting data collection / reduction / analysis agency representative (i.e., NSWC Corona, JHU APL, etc.) should be invited.
- b. For oversight programs, the DOT&E AO shall be invited to participate. If not attending, provide the post-Touch Point D product by e-mail. Document any unresolved substantive or critical comments in the RCRM.
- c. Be prepared to provide relevant documentation (MDRM, DRTM, Conditions Directory, etc.).
- d. Provide the status (number of items and which stakeholders have responded) of the RCRM and address applicable items during the corresponding portion of the meeting.

**NOTE:** *The touch point meeting should be cancelled and rescheduled any time the LTE or OTD find the product will not meet the required two (2)-working day read-ahead availability prior to a scheduled touch point.*

**NOTE:** *If there is disagreement about the Data Collection Plan that cannot be resolved at Touch Point D, the B Code (or Squadron COTD/ACOTD) should be briefed and act as the decision authority to move on to the next phase of Test Plan development.*

☐ 9. Capture Touch Point D Lessons Learned.

- a. Document development considerations and issues the team encountered and the recommendation for follow-on teams to consider.
  - i. Provide LL type (Best Practice, Problem, or Recommendation).
  - ii. Define Brief Description, Observations, and Conclusion.
- b. Document any competency process documentation (i.e. specific checklist steps or template guidance) or expertise that may have better supported the team and improve initial document quality and/or timeliness.

☐ 10. Provide revised Touch Point D read-ahead.

☐ 11. Log Touch Point D completion in TEPS with 01C Rep concurrence.



## OTD Test Plan Touch Point E Checklist

Purpose: To develop the **Data Analysis Plan** to ensure the data is analyzed per the IEF and the Post-Test Iterative Process.

- ☐ 1. Review section 2 of the IEF, COI by COI.
- ☐ 2. For each COI, describe the *COI assessment or resolution methodology*. Discuss COIs, tasks, and measures, and focus on Critical Tasks and Subtasks.
- ☐ 3. Describe how measures will be analyzed to assess or evaluate associated tasks and assess or resolve COIs.
  - a. Discuss M&S contributions, DT-only measures, and previously qualified data.
  - b. Present the data elements required to determine the measure result.

**NOTE:** This was created by the tool as part of Deliverable D. For a format more usable in developing the Data Analysis Plan follow: Report tab -> Test Plans dropdown -> [select working test plan] -> Touch Point E -> Measure Required Data Elements.

- c. Describe the analytical method or formula to be used to calculate the result of each run and address how those individual run results will be analyzed to determine the overall/final measure result. Also address the task to which this measure will contribute.

**NOTE:** If the measure is qualitative, then a discussion of how the data requirements will be analyzed and the result attained is appropriate. In the case of a Yes/No threshold being required, then the result required to achieve a “Yes” must be thoroughly discussed.

- d. If applicable, describe the statistical method (e.g., ANOVA and confidence interval evaluation) to be used for the factor analysis.
  - e. Discuss non-standard data analysis methodologies.
  - f. Discuss appropriate units and tolerances criteria that will be used to report the result.

**NOTE:** Detailed discussions of analysis methodologies are not required for ‘standard’ calculations such as the mean, standard deviation, or the Wilson Score Method. Deviations from standard methodologies must be described.

- ☐ 4. For every Critical Task in support of a COI, define scoring criteria and allowable tolerances.

**NOTE:** Scoring data is a four-part process: (1) qualify the data for OT (Fleet representative operator, Fleet SUT configuration, operationally realistic stress, etc.), (2) inventory all data requirements per measure and condition, (3) confirm data met run controlled condition tolerances, (4) score the run (hit/miss, pass/fail, OMF/not, abort/not).

- ☐ 5. Draft Touch Point E read-ahead, Data Analysis Plan, and email it to the 01C Rep, 01B CTF, SH/OTC, LTE, contract support, data analysts, applicable Program Office Representative, any external supporting data collection / reduction / analysis agency representative (i.e., NSWC Corona, JHU APL, etc.), DOT&E AO and other members of the test team **two (2)-working days prior** to the scheduled Test Plan Touch Point E.

Touch Point E read-ahead is the Data Analysis Plan and Scoring Board Procedures in enclosure (2), and includes the following presented COI-by COI:

- a. COI resolution methodology
- b. Critical Measures **with** and **without** Response Variables discussion.
- c. Scoring Board Procedures.
- d. Measure calculation discussion.
- e. Plan of Action and Milestones (POA&M) for the Post-Test Iterative Process. (Not included in the Test Plan enclosure (2) document, but presented separately for review)

**NOTE:** *The Post-Test Iterative Process POA&M should include:*

- *How many Scoring Boards and COI Evaluation Working Groups (CEWG) the team plans to conduct and when they will conduct them*
- *Data analysis to be conducted by outside entities and the associated timelines*
- *Timeline(s) associated with reviewing, reducing and analyzing the data*
- *When the Analysis Working Group (AWG) and/or the Blue & Gold Sheet peer review (as desired) will be scheduled*
- *When the Deficiency/Risk Letter(s) and Data Analysis Summary will be signed out*
- *When the SERB/E-SERB will be scheduled.*

**NOTE:** *See Y Drive (Y:\OT&E Production Library\Test Plan and DCP) for the Test Plan and enclosure (2) templates and examples. See Y Drive (Y:\OT&E Production Library\Test Reports) for Best Practice 11 Post-Test Iterative Process to support POA&M development.*

☐ 6. Conduct Touch Point E.

- a. Schedule a review with the 01C Rep, 01B CTF, SH/OTC, LTE, contract support, data analysts, and other members of the test team. Include the 01D TDA if Cyber Survivability is within scope for the test phase being planned. The applicable Program Office Representative and any supporting data collection / reduction / analysis agency representative (i.e., NSWC Corona, JHU APL, etc.) should be invited.
- b. For oversight programs, while DOT&E conducts independent analysis, the DOT&E AO shall be invited to participate. If not attending, provide the post-Touch Point E product by e-mail. Document any unresolved substantive or critical comments in the RCRM.
- c. Be prepared to provide the relevant required documentation (e.g., IEF section 2, MDRM, Conditions Directory, etc.).
- d. Provide the status (number of items and which stakeholders have responded) of the RCRM and address applicable items during the corresponding portion of the meeting.

**NOTE:** *The touch point meeting should be cancelled and rescheduled any time the LTE or OTD find the product will not meet the required two (2)-working day read-ahead availability prior to a scheduled touch point.*

**NOTE:** *If there is disagreement about the Data Analysis Plan that cannot be resolved at Touch Point E, the B Code (or Squadron COTD/ACOTD) should be briefed and act as the decision authority to move on to the next phase of Test Plan development.*

- ☐ 7. Capture Touch Point E Lessons Learned (LL).
  - a. Document development considerations and issues the team encountered and the recommendation for follow-on teams to consider.
    - i. Provide LL type (Best Practice, Problem, or Recommendation).
    - ii. Define Brief Description, Observations, and Conclusion.
  - b. Document any competency process documentation (i.e. specific checklist steps or template guidance) or expertise that may have better supported the team and improve initial document quality and/or timeliness.
- ☐ 8. Provide revised Touch Point E read-ahead.
- ☐ 9. Log Touch Point E completion in TEPS with 01C Rep concurrence.

## Test Plan Document Development Checklist

Purpose: To review and edit the information from the touch point read-aheads, IEF, and other source documents and construct a final draft **Test Plan** document for routing.

- ☐ 1. Review and edit, as required, Section 1 and 2 of the following template the paragraphs:
  - a. Purpose of Test (Touch Point A).
  - b. SUT description (Touch Point A).
  - c. SoS description (Touch Point A).
  - d. Mission Area Discussion (Touch Point A).
- ☐ 2. Review and edit, as required, Test Execution details (appendix A and C):
  - a. Test Schedule (Touch Point B), test period by test period.
  - b. Detailed Method of Test (Touch Point C), event by event, under its associated test period.
  - c. Data Collection Plan (Touch Point D), event by event, under its associated Test Method.
- ☐ 3. Finish Section 1.
  - a. Discuss the Test Configurations.
  - b. Consider and document, as appropriate:
    - i. Hardware configurations of the SUT that are not representative of the Fleet
    - ii. Software configurations of the SUT that are not representative of the Fleet
    - iii. Aspects of the test environment that are not representative of Fleet conditions
    - iv. Aspects of the threat and target that are not representative of Fleet operations.
- ☐ 4. Finish Section 2.
  - a. For ‘Data Qualified for OT’ (Touch Point B), review and update, as required.
  - b. For ‘Scheduled IT Events Supporting OT’ (Touch Point B), review and update, as required.
    - i. For DT/IT events that have not occurred yet, make sure the date, location, measures, vignettes are discussed and how data will be qualified for OT.
    - ii. To be qualified for OT, DT/IT data must use:
      - Operationally realistic operator
      - Operationally realistic environment
      - Operationally realistic threat
      - Operationally realistic target
      - The SUT configuration defined for this phase of OT.

- b. For 'M&S':
  - i. Review and include applicable portions of the M&S portion of the IEF and TEMP.
  - ii. Discuss the VV&A plan for models used.
  - iii. Discuss models used for DT data being brought forward and their VV&A.
- c. For 'Limitations' (Touch Point A):
  - i. Review the limitations identified.
  - ii. Do you have adequate time and resources?
  - iii. Can you test in key environmental elements that can impact performance?
  - iv. Are you able to test all capabilities delivered by the SUT?
  - v. Are you able to test with all aspects of the SoS required to exercise capabilities of the SUT?
  - vi. Do you have test constraints?
  - vii. Must you use specific test articles not representative of the Fleet?
  - viii. Are you using M&S instead of the SUT for particular capabilities?
- d. For FOT&E or VCD, update any additional previous deficiencies or supporting documentation that have been requested to be evaluated or provided by the program office.
- e. For 'Consolidated Resources':
  - i. Bring forward the resources from the TEMP and IEF applicable to current phase of test.
  - ii. Add any additional resources identified during Touch Points B, C, and D.
  - iii. Add cost estimates for the resources or, if cost is unavailable, provide level of detail allowing cost calculation to be derived.

- ☐ 5. Finish Section 3 by discussing 'Safety Responsibilities'.
  - a. Assign responsibilities for using ORM principles.
  - b. Discuss Range Safety responsibilities if applicable.
  - c. Discuss Fire Break procedures if not thoroughly documented in an operator publication.
  - d. Discuss who is responsible for the SUT and who will initiate mishap responsibilities.
  - e. What potential hazards exist to the accomplishment of the test?
  - f. What potential hazards exist to the operators and test observers?
  - g. What potential hazards exist to the SUT?
  - h. What potential hazards exist to the environment/civilian bystanders?
  - i. Once those hazards are identified discuss their likelihood/severity, mitigation strategy, and likelihood/severity after implementation of the mitigation strategy.

- ☐ 6. Finish Section 4.

- a. Discuss 'Program Administration'.
- b. Discuss 'Visitor Control'.
- c. Discuss policies regarding release of OT data and Blue/Gold Sheets.
- d. Discuss Reporting Timelines, including any unique requirements.

**NOTE: Typically the Report timeline is 90 days for ACAT I programs and 60 for non-ACAT I programs. If the timeline cannot be met, the OTD should seek relief from the timeline from OPTEVFOR leadership. Include the actual timeline in this section or the OTD Manual timeline if relief has not been granted.**

- ☐ 7. Include the following appendices at a minimum:
  - a. Appendix A - Test Execution. Includes merged read- aheads from Touch Point B, C, and D.
  - b. Appendix B - Test Design. Includes updated:
    - i. Measures-to-Data Requirements Table (Touch Point D )
    - ii. Conditions-to-Data Requirements Table (Touch Point D )
    - iii. Vignette-to-Subtask-to-Conditions Matrix (Run Matrix)
    - iv. Traceability Matrix.
  - c. Appendix C - Test Cards, Data Sheets, Surveys, Interviews, and Focus Groups (Touch Point D).
  - d. Acronyms and Abbreviations.
  - e. References (should be the last appendix).
  - f. Enclosure (2) with:
    - i. Section 1 - Data Analysis Plan (Touch Point E).
    - ii. Section 2 - OT Scoring Board Procedures (Touch Point E) (including the Mission Critical Subsystem Matrix (Touch Point A)).

**NOTE: These appendices are included as sections of the test plan letter for tests of limited scope. Follow the template applicable to your phase of test for guidance.**

- ☐ 8. Adjudicate any remaining comments from DOT&E AO included in the RCRM.
- ☐ 9. Organize for Test Plan Review Board (TPRB) to discuss the following interest items at a minimum:
  - a. Purpose of Test (Touch Point A).
  - b. SUT Description (Touch Point A).
  - c. SoS Description (Touch Point A).
  - d. Mission Area Discussion (Touch Point A).
  - e. Limitations to test (Touch Point A).
  - f. Previous Deficiencies (FOT&E or VCD) (Touch Point A).

- g. Safety Responsibilities and Risk Mitigation.
- h. Test Execution (appendix A).
  - i. Schedule (Touch Point B).
  - ii. Detailed Method of Test (Touch Point C).
  - iii. Data Collection Plan (Touch Point D).
- i. Data Analysis Plan (Touch Point E).
- j. Report timeline and supporting organizations involved in analysis.

**NOTE:** *The focus of the TPRB is on Test Execution. The schedule, DMOT and DCP should be discussed in detail. Updating and building upon the original Concept of Test Brief to highlight the additional details of execution is acceptable for the TPRB.*

- ☐ 10. Email the draft test plan and the TPRB brief, as appropriate, to the A-Code, B-Code, Squadron CO, Squadron XO, COTD, ACOTD, 01C, 01B, 01D, SH/OTC, 01C Rep, 01B CTF, 01D TDA, LTE, contract support, and other members of the test team **five (5)-working days prior** to the scheduled TPRB.

**NOTE:** *Final 01C review and comments will be provided prior to or shortly after TPRB.*

**NOTE:** *It is highly recommended to provide the read-ahead to the SH/OTC, 01C Rep, and 01B CTF prior to distributing to the senior leadership to reduce the working-level comments during the conduct of the TPRB.*

- ☐ 11. Conduct TPRB.

**NOTE:** *The TPRB is not a document review. The purpose of the TPRB is for the OTD to demonstrate complete mastery of the proposed test and Test Plan. To support this purpose and encourage open and frank discussion, participation in the TPRB is limited to OPTEVFOR, test squadron, and other OTA (for multi-service programs) personnel.*

- a. OTD will schedule the TPRB with the following people:
  - i. Required: A Code, Squadron CO, 01C, 01B (or their designated reps).
  - ii. Recommended: B Code, COTD, ACOTD, SH/OTC, LTE, 01C Rep, 01B CTF, contract support, and other members of the test team. Include 01D, 01DB, and the 01D TDA if Cyber Survivability is within scope for the test phase being planned.
- b. Be prepared to provide all documents referenced in the test plan to address questions.
- c. Provide the status (number of items and which stakeholders have responded) of the RCRM and address applicable items during the corresponding portion of the meeting. OTD will brief the test plan. The objective of the meeting will be to gain approval for routing the draft test plan and obtain any feedback for inclusion in the test plan.

- ☐ 12. Incorporate all changes and updates to the test plan from the TBRB.

☐ 13. Route the test plan for signature.

***NOTE: The list below is provided as a recommendation for routing for final signature. Determine actual routing with Warfare Division Director.***

- a. LTE
- b. SH/OTC
- c. Division A/B codes
- d. Editors
- e. 00TD
- f. 00D
- g. 00.

☐ 14. Capture any final Lessons Learned (LL).

- a. Document development considerations and issues the team encountered and the recommendation for follow-on teams to consider.
  - i. Provide LL type (Best Practice, Problem, or Recommendation).
  - ii. Define Brief Description, Observations, and Conclusion.
- b. Document any competency process documentation (i.e. specific checklist steps or template guidance) or expertise that may have better supported the team and improve initial document quality and/or timeliness.



## Document Tracking

| Summary of Template and Checklist Changes   | Date Incorporated |
|---|-------------------|
| <p>Templates</p> <ul style="list-style-type: none"> <li>• Main body and most appendices are in one Word file. Data Analysis Plan and Scoring Board guidance is in a separate enclosure with its own Word file. Enclosure 2 is available upon request.</li> <li>• Signature page as an executive summary.</li> <li>• Prose introduction to COIs is removed.</li> <li>• Added 2.3 DT Contributions.</li> <li>• Added 2.5 Scheduled IT Events Supporting OT.</li> <li>• Removed 4.2 Program Security Information.</li> <li>• Clarified 4.4 Release of OT Data.</li> <li>• Changed A.2 Test Execution to include DOE summary.</li> <li>• Deleted the DRTM from appendix B, added the Traceability matrix.</li> <li>• Preference is to put DMOT and DCP in test cards (appendix C).</li> <li>• Added guidance for creating test cards.</li> </ul> <p>Checklist</p> <ul style="list-style-type: none"> <li>• Administrative changes to support above template changes.</li> <li>• Included 01D POCs and initial cyber guidance</li> <li>• Provided Process Admin guidance</li> <li>• Updated for SUT/SoS in-scope and out-of-scope guidance</li> <li>• Mission Critical Subsystem Matrix guidance</li> <li>• Added Regression considerations</li> <li>• Added clarity on Touch Point B scoring of previous data</li> <li>• Recommend Action Officer level review of Touch Point B products prior to dissemination.</li> <li>• Include hazard identification and Section 3 of Test Plan into Touch Point C deliverable.</li> </ul> | June 2016         |
| <p>Templates</p> <ul style="list-style-type: none"> <li>• Added test phase specific templates (EOA, OA, QRA, DCP).</li> <li>• Incorporation of Mission Based Test &amp; Evaluation System (database tool) Test Plan module procedures.</li> </ul> <p>Checklist</p> <ul style="list-style-type: none"> <li>• Various administrative updates.</li> <li>• Consolidation of template and example file location references to the Admin section.</li> <li>• Updated from Touch Point Deliverables to read-aheads.</li> <li>• Updated read-ahead due dates for Touch Point B and Test Plan Review Board to five (5)-working days.</li> <li>• Added step to document lessons learned following each touch point.</li> <li>• Incorporation of Mission Based Test &amp; Evaluation System Test Plan module procedures.</li> <li>• Incorporation of 01C RCRM business rules.</li> <li>• Updated references for Cybersecurity COI to Cyber Survivability and provided clarity on 01D participants in test planning meetings.</li> </ul>  | September 2019    |